



## Habitat Information Tracking System



Dec 9, 2009

### Project Overview

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**Project: (50004) TNC Milford Neck08**

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**Type:** Habitat Improvement  
**Orgcode:** (51120) DELAWARE BAY ESTUARY PROJECT  
**Entered By:** Richard Mccorkle, 3026539152  
**Point of Contact:** Richard McCorkle  
**Creation Date:** Aug 06, 2008  
**Status:** Completed  
**Completion Date:** May 2009  
**State:** Delaware  
**FWS Region:** 5

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#### Project Narrative:

In partnership with The Nature Conservancy's Delaware Chapter, DBEP assisted with the restoration of 33 acres of upland forest and 15 acres of non-tidal wetland habitat within TNC's Milford Neck Preserve in Kent County, Delaware. The site of the restoration work was previously ditched and planted in corn and soybeans. The restored forests will reconnect existing, adjacent forests owned by TNC, increasing forest interior habitat for several rare species that are sensitive to forest fragmentation, and will also provide local water quality benefits. In addition, restored wetlands will benefit waterfowl (e.g., wood duck), wading birds, amphibians, and other wildlife associated with freshwater wetlands. TNC contributed funding and labor to site preparation, including control of invasive species, and also supervised the reforestation work and contributed staff time to this part of the project. DBEP contributed funding to pay for wetland restoration and plant materials, and also supervised wetland restoration and assisted with reforestation work. Wetland restoration involved a series of small ditch plugs in private, non-tidal agricultural ditches. Two techniques were employed to accelerate succession within reforestation areas: habitat islands and tree seedling installations. Habitat Islands are comprised of 35 or more native tree and shrub saplings, averaging 3 -5 feet in height. Species generally include native oaks, tulip poplar, southern arrowwood and other species commonly found in nearby reference woodlands. These high-density plantings of approximately 250 square feet in area (16 feet on a side), spread evenly over reforestation sites, have been informally documented to attract wildlife to interior portions of former farm land much earlier in the reforestation process. This wildlife usage usually translates into increased rates of colonization of secondary successional shrub and tree species (e.g., cherry; hawthorn.; Viburnum spp), through seed dispersal. In early March, vegetation at each island location was herbicide-killed and removed to bare earth. Soil surfaces were lightly tilled and smoothed to provide ideal planting conditions. TNC and DBEP staff, and a trained cadre of volunteers, planted and mulched all islands during

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April and May of 2009. Deer exclusion fencing was also installed by TNC and DBEP staff during this time period. Bare-root tree seedling installations were used to immediately provide a second age class to reforestation sites and ensure that a late successional species component will be part of the returning forest at an accelerated pace. Tree seedling species are typically a mix of mid- and late-successional hardwood species (e.g., native oaks) which are representative of coastal plain forests of lower Kent County, Delaware. These seedlings were planted at a rate of approximately 400 per acre by a professional planting crew. A supplemental planting of 1,075 small container white oak seedlings was also accomplished, with assistance from ERTHNXT, Octoraro Native Plant Nursery, and Boy Scouts. In addition, Astra Zeneca and GreenWatch Institute contributed additional funding for mulch and deer exclusion fencing.

TNC, the State of Delaware, and Delaware Wild Lands, Inc. have combined forces to protect over 10,000 acres of wildlife habitat in Milford Neck. The areas being restored through this partnership will be protected by TNC in perpetuity. This effort will build upon previous successful habitat restoration efforts in this area.

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#### **Public Description:**

In partnership with The Nature Conservancy's Delaware Chapter, the U.S. Fish & Wildlife Service's Delaware Bay Estuary Project assisted with the restoration of 33 acres of upland forest and 15 acres of non-tidal wetland habitat within TNC's Milford Neck Preserve in Kent County, Delaware. The site of the restoration work was previously ditched and planted in corn and soybeans. The restored forests will reconnect existing, adjacent forests owned by TNC, increasing forest interior habitat for several rare species that are sensitive to forest fragmentation, and will also provide local water quality benefits. In addition, restored wetlands will benefit waterfowl (e.g., wood duck), wading birds, amphibians, and other wildlife associated with freshwater wetlands. TNC contributed funding and labor to site preparation, including control of invasive species, and also supervised the reforestation work and contributed staff time to this part of the project. DBEP contributed funding to pay for wetland restoration and plant materials, and also supervised wetland restoration and assisted with reforestation work. Wetland restoration involved a series of small ditch plugs in private, non-tidal agricultural ditches. Two techniques were employed to accelerate succession within reforestation areas: habitat islands and tree seedling installations. Habitat Islands are comprised of 35 or more native tree and shrub saplings, averaging 3 -5 feet in height. Species generally include native oaks, tulip poplar, southern arrowwood and other species commonly found in nearby reference woodlands. These high-density plantings of approximately 250 square feet in area (16 feet on a side), spread evenly over reforestation sites, have been informally documented to attract wildlife to interior portions of former farm land much earlier in the reforestation process. This wildlife usage usually translates into increased rates of colonization of secondary successional shrub and tree species (e.g., cherry; hawthorn.; *Viburnum* spp), through seed dispersal. In early March, vegetation at each island location was herbicide-killed and removed to bare earth. Soil surfaces were lightly tilled and smoothed to provide ideal planting conditions. TNC and DBEP staff, and a trained cadre of volunteers, planted and mulched all islands during April and May of 2009. Deer exclusion fencing was also installed by TNC and DBEP staff during this time period. Bare-root tree seedling installations were used to immediately provide a second age class to reforestation sites and ensure that a late successional species component will be part of the returning forest at an accelerated pace. Tree seedling species are typically a mix of mid- and late-successional hardwood species (e.g., native oaks) which are representative of coastal plain forests of lower Kent County, Delaware. These seedlings were planted at a rate of approximately 400 per acre by a professional planting crew. A supplemental planting of 1,075 small container white oak

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seedlings was also accomplished, with assistance from EARTHNET, Octoraro Native Plant Nursery, and Boy Scouts. In addition, Astra Zeneca and GreenWatch Institute contributed additional funding for mulch and deer enclosure fencing.

TNC, the State of Delaware, and Delaware Wild Lands, Inc. have combined forces to protect over 10,000 acres of wildlife habitat in Milford Neck. The areas being restored through this partnership will be protected by TNC in perpetuity. This effort will build upon previous successful habitat restoration efforts in this area.

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**Project mechanism(s):**

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**1. Title:** TNC Milford Neck08

**Mechanism Type:** Cooperative Agreement

**Mechanism: TNC Milford Neck08**

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**Title:**TNC Milford Neck08

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**Mechanism Type:** Cooperative Agreement

**Agreement No.:** 501818J260

**Primary Non-FWS Party:** NGO/Land Trust

**Date of Mechanism:** Jul 28, 2008

**Length of Mechanism:** 3 years

**Funds Obligated Date:** Jul 2008

**Funding Source Fiscal Year:** 2008

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**Mechanism accomplishment(s):**

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**1. Title:** Stratham Lane

**Habitat Type:** Upland

**Accomplishment Type:** Restoration

**2. Title:** Stratham Lane

**Habitat Type:** Wetland

**Accomplishment Type:** Restoration

**Accomplishment: Stratham Lane**

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**Accomplishment:Stratham Lane****Mechanism:TNC Milford Neck08**

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**Coordinates:** Longitude: -75.352389064, Latitude: 38.97444711**Watershed (HUC):** BROADKILL - SMYRNA**Congressional District:** DE00

Michael N. Castle (R)

**County:** Kent**State:** Delaware**FWS Region:** 5 - Region 5**FWS Ecoregion:** Delaware River/Delmarva Coastal Area**Accomplishment Status:** Final**Accomplishment Type:** Restoration**Habitat Type:** Upland**Habitat Class:** Broadleaf Forest**Habitat Sub-Class:** Oak - hickory forest**Completion Date:** May 14, 2009**Primary Trust/Resource Benefits:** Migratory Birds**Secondary Trust/Resource Benefits:** Non-Federal Trust Species**Other Trust/Resource Benefits:** Interjurisdictional Fish**Overlay Protection Holder:** NGO/Land Trust**Protected in perpetuity?** yes

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**Accomplishment area(s):**

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**1. Title:** Stratham Lane**Primary Non-FWS Party:** NGO/Land Trust**Area: Stratham Lane**

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**Accomplishment: Stratham Lane****Area: Stratham Lane**

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**Primary Non-FWS Party:** NGO/Land Trust

**Fiscal Year of Work:** 2009

**Treatment / Technique: 1** Planting-Maintaining Trees/Shrubs

**Est. Acres After:** 33.0

**Acres After:** 33.0

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**Comments:**

Planted 12,800 Bare-Root Oak Seedlings (4 species: chestnut oak, northern red oak, pin oak, white oak); and 1,435 Container Hardwood Trees and Shrubs (6 species: willow oak, white oak, tulip poplar, red maple, winterberry holly, southern arrowwood)

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**Area partner(s):**

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**Partner:** Astra Zeneca

**Partner Type:** Private Corporation

**Partner Cash Contribution:** \$5000.00

**Fiscal Year:** 2009

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**Comments: for Astra Zeneca**

Funds used to purchase plants and deer exclosure fence materials for 10 habitat islands (i.e., clusters of container trees and shrubs)

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**Partner:** The Nature Conservancy

**Partner Type:** NGO/Land Trust

**Is this partner a landowner?** yes

**Partner Inkind Contribution:** \$6938.00

**Fiscal Year:** 2009

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**Comments: for The Nature Conservancy**

Includes TNC staff labor (\$5,729) and volunteer labor (\$1,209); volunteers included Air Force personnel from Dover Air Force Base, and several private individuals

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**Partner:** GreenWatch Institute

**Partner Type:** Private Corporation

**Partner Cash Contribution:** \$813.00

**Fiscal Year:** 2009

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**Comments: for GreenWatch Institute**

Used toward deer exclosure fence materials

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**Partner:** ERTHNXT

**Partner Type:** NGO/Land Trust

**Partner Cash Contribution:** \$3400.00

**Fiscal Year:** 2009

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**Comments: for ERTHNXT**

Funds used to purchase 1,000 small containerized white oaks, to be planted by Boy Scouts on a portion of the site. ERTHNXT is a non-profit organized to support community projects executed by the Girl and Boy Scouts of America.

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**Partner:** Octoraro Native Plant Nursery

**Partner Type:** Private Corporation

**Partner Cash Contribution:** \$255.00

**Fiscal Year:** 2009

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**Comments: for Octoraro Native Plant Nursery**

Dollar value of 75 additional containerized white oaks donated to project

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**Area sub-activity(s):**

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**FWS Sub-Activity:** Coastal Program - 1124

**Contribution Fiscal Year:** 2009

**Funding Source Fiscal Year:** 2008

**Est. Cash:** \$9745.00

**Cash:** \$9745.00

**Est. Inkind:** \$6000.00

**Inkind:** \$6000.00

**Est. FWS Days:** 12.0

**FWS Days:** 12.0

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**Comments: for Coastal Program - 1124**

Assisted with site prep, laying out planting scheme, pick-up and delivery (to site) of container plants, augering holes, planting, supervising volunteers, installing deer exclosure fencing, mulching, and administering funds

Area ITIS species:	
<b>Species Name:</b> Ambystoma opacum <b>Common Name:</b> Marbled Salamander	<b>Species Name:</b> Terrapene carolina carolina <b>Common Name:</b> Eastern Box Turtle
<b>Species Name:</b> Accipiter cooperii <b>Common Name:</b> Cooper's Hawk	<b>Species Name:</b> Buteo lineatus <b>Common Name:</b> Red-shouldered Hawk
<b>Species Name:</b> Haliaeetus leucocephalus <b>Common Name:</b> Bald Eagle	<b>Species Name:</b> Coccyzus americanus <b>Common Name:</b> Yellow-billed Cuckoo
<b>Species Name:</b> Coccyzus erythrophthalmus <b>Common Name:</b> Black-billed Cuckoo	<b>Species Name:</b> Strix varia <b>Common Name:</b> Barred Owl
<b>Species Name:</b> Dryocopus pileatus <b>Common Name:</b> Pileated Woodpecker	<b>Species Name:</b> Picoides villosus <b>Common Name:</b> Hairy Woodpecker
<b>Species Name:</b> Myiarchus crinitus <b>Common Name:</b> Great Crested Flycatcher	<b>Species Name:</b> Empidonax virescens <b>Common Name:</b> Acadian Flycatcher
<b>Species Name:</b> Contopus virens <b>Common Name:</b> Eastern Wood-Pewee	<b>Species Name:</b> Toxostoma rufum <b>Common Name:</b> Brown Thrasher
<b>Species Name:</b> Sitta carolinensis <b>Common Name:</b> White-breasted Nuthatch	<b>Species Name:</b> Certhia americana <b>Common Name:</b> Brown Creeper
<b>Species Name:</b> Mnioilta varia <b>Common Name:</b> Black-and-white Warbler	<b>Species Name:</b> Helmitheros vermivorus <b>Common Name:</b> Worm-eating Warbler
<b>Species Name:</b> Parula americana <b>Common Name:</b> Northern Parula	<b>Species Name:</b> Dendroica caerulescens <b>Common Name:</b> Black-throated Blue Warbler
<b>Species Name:</b> Dendroica coronata <b>Common Name:</b> Yellow-rumped Warbler	<b>Species Name:</b> Dendroica virens <b>Common Name:</b> Black-throated Green Warbler
<b>Species Name:</b> Dendroica fusca <b>Common Name:</b> Blackburnian Warbler	<b>Species Name:</b> Dendroica striata <b>Common Name:</b> Blackpoll Warbler
<b>Species Name:</b> Dendroica discolor <b>Common Name:</b> Prairie Warbler	<b>Species Name:</b> Icteria virens <b>Common Name:</b> Yellow-breasted Chat
<b>Species Name:</b> Wilsonia citrina <b>Common Name:</b> Hooded Warbler	<b>Species Name:</b> Setophaga ruticilla <b>Common Name:</b> American Redstart
<b>Species Name:</b> Vireo flavifrons <b>Common Name:</b> Yellow-throated Vireo	<b>Species Name:</b> Vireo olivaceus <b>Common Name:</b> Red-eyed Vireo
<b>Species Name:</b> Agelaius phoeniceus <b>Common Name:</b> Red-winged Blackbird	<b>Species Name:</b> Icterus galbula <b>Common Name:</b> Baltimore Oriole
<b>Species Name:</b> Passerina cyanea <b>Common Name:</b> Indigo Bunting	<b>Species Name:</b> Pipilo erythrophthalmus <b>Common Name:</b> Eastern Towhee



<b>Species Name:</b> Hylocichla mustelina	<b>Species Name:</b> Polioptila caerulea
<b>Common Name:</b> Wood Thrush	<b>Common Name:</b> Blue-gray Gnatcatcher
<b>Species Name:</b> Piranga olivacea	<b>Species Name:</b> Piranga rubra
<b>Common Name:</b> Scarlet Tanager	<b>Common Name:</b> Summer Tanager

## Accomplishment: Stratham Lane

<b>Accomplishment:</b> Stratham Lane
<b>Mechanism:</b> TNC Milford Neck08

**Coordinates:** Longitude: -75.34836, Latitude: 38.97105

**Watershed (HUC):** BROADKILL - SMYRNA

**Congressional District:** DE00

Michael N. Castle (R)

**County:** Kent

**State:** Delaware

**FWS Region:** 5 - Region 5

**FWS Ecoregion:** Delaware River/Delmarva Coastal Area

**Joint Venture Area:** Atlantic Coast Joint Venture

**Accomplishment Status:** Final

**Accomplishment Type:** Restoration

**Habitat Type:** Wetland

**Habitat Class:** Palustrine

**Completion Date:** Nov 26, 2008

**Primary Trust/Resource Benefits:** Migratory Birds

**Secondary Trust/Resource Benefits:** Non-Federal Trust Species

**Other Trust/Resource Benefits:** Interjurisdictional Fish

**Overlay Protection Holder:** NGO/Land Trust

**Protected in perpetuity?** yes

<b>Accomplishment area(s):</b>
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**1. Title:** Stratham Lane Restored Wetlands

**Primary Non-FWS Party:** NGO/Land Trust

## Area: Stratham Lane Restored Wetlands

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**Accomplishment: Stratham Lane**  
**Area: Stratham Lane Restored Wetlands**

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**Primary Non-FWS Party:** NGO/Land Trust  
**Fiscal Year of Work:** 2009  
**Treatment / Technique:** 1 Ditch Plug Installation/Removal  
**Est. Acres Before:** 0.0  
**Acres Before:** 0.0  
**Est. Acres After:** 15.0  
**Acres After:** 15.0

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**Comments:**

Five ditch plugs were installed. No water control structures were used. Water levels will be controlled by an emergency spillway.

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**Area partner(s):**

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**Partner:** The Nature Conservancy  
**Partner Type:** NGO/Land Trust  
**Is this partner a landowner?** yes  
**Partner Inkind Contribution:** \$2000.00  
**Fiscal Year:** 2009

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**Comments: for The Nature Conservancy**

TNC staff assisted with topographic survey, contributed to restoration design, handled sub-contracting of local Conservation District, and assisted with seeding and mulching of main ditch plug and emergency spillway.

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**Area sub-activity(s):**

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**FWS Sub-Activity:** Coastal Program - 1124  
**Contribution Fiscal Year:** 2009  
**Funding Source Fiscal Year:** 2008  
**Est. Cash:** \$1509.00  
**Cash:** \$1509.00  
**Est. Inkind:** \$4200.00  
**Inkind:** \$4200.00  
**Est. FWS Days:** 7.0  
**FWS Days:** 7.0

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**Comments: for Coastal Program - 1124**

FWS days (in-kind contribution) included conducting topographic survey, designing restoration plan, handling permitting and NEPA compliance, obtaining materials (silt fence, seed, straw mulch, jute mat for emergency spillway, etc.), supervising construction, and seeding and mulching.

Area ITIS species:	
<b>Species Name:</b> Alosa aestivalis <b>Common Name:</b> blueback shad	<b>Species Name:</b> Alosa pseudoharengus <b>Common Name:</b> bigeye herring
<b>Species Name:</b> Ambystoma opacum <b>Common Name:</b> Marbled Salamander	<b>Species Name:</b> Terrapene carolina carolina <b>Common Name:</b> Eastern Box Turtle
<b>Species Name:</b> Ardea herodias <b>Common Name:</b> Great Blue Heron	<b>Species Name:</b> Egretta thula <b>Common Name:</b> Snowy Egret
<b>Species Name:</b> Anas rubripes <b>Common Name:</b> American Black Duck	<b>Species Name:</b> Aix sponsa <b>Common Name:</b> Wood Duck
<b>Species Name:</b> Tringa melanoleuca <b>Common Name:</b> Greater Yellowlegs	<b>Species Name:</b> Calidris alpina <b>Common Name:</b> Dunlin
<b>Species Name:</b> Limnodromus griseus <b>Common Name:</b> Short-billed Dowitcher	<b>Species Name:</b> Protonotaria citrea <b>Common Name:</b> Prothonotary Warbler
<b>Species Name:</b> Dendroica petechia <b>Common Name:</b> Yellow Warbler	<b>Species Name:</b> Seiurus motacilla <b>Common Name:</b> Louisiana Waterthrush
<b>Species Name:</b> Geothlypis trichas <b>Common Name:</b> Common Yellowthroat	

## Total Area

Total Project Area By Habitat Type
<b>Est. Upland Acres After:</b> 33.0
<b>Upland Acres After:</b> 33.0
<b>Est. Wetland Acres After:</b> 15.0
<b>Wetland Acres After:</b> 15.0

Total Project Area
<b>Est. Acres After:</b> 48.0
<b>Acres After:</b> 48.0

## Total Contributions

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**Total Partner Contribution to Project By Habitat Type**

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**Upland Cash:** \$9468.00  
**Upland Inkind:** \$6938.00  
**Wetland Inkind:** \$2000.00

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**Total Partner Contribution to Project**

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**Cash:** \$9468.00  
**Inkind:** \$8938.00

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**Total Service Contribution to Project By Habitat Type**

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**Est. Upland Cash:** \$9745.00  
**Upland Cash:** \$9745.00  
**Est. Wetland Cash:** \$1509.00  
**Wetland Cash:** \$1509.00  
**Est. Upland Inkind:** \$6000.00  
**Upland Inkind:** \$6000.00  
**Est. Wetland Inkind:** \$4200.00  
**Wetland Inkind:** \$4200.00  
**Est. Upland FWS Days:** 12.0  
**Upland FWS Days:** 12.0  
**Est. Wetland FWS Days:** 7.0  
**Wetland FWS Days:** 7.0

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**Total Service Contribution to Project**

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**Est. Cash:** \$11254.00  
**Cash:** \$11254.00  
**Est. Inkind:** \$10200.00  
**Inkind:** \$10200.00  
**Est. FWS Days:** 19.0  
**FWS Days:** 19.0